Pre-processing quantities

Calculated quantities in `mesh_evaluation.py`.

Initial velocity profile

$$U_0^+(y) = \frac{U_w^+}{2} + \frac{U_w^+}{2}\tanh\left[\frac{D}{2\theta_{sl}}\left(1 - \frac{y}{D}\right)\right]$$

Shear layer thickness

$$\theta_{sl} \approx \frac{54\nu}{U_w}$$

Initial Courant-Friedrichs-Lewy number

$$Co = \frac{U_w\Delta t}{\Delta x}$$

Initial Péclet number

$$Pé = \frac{U_w\Delta x}{\nu}$$

Initial Numerical Fourier number

$$D = \frac{\nu\Delta t}{\Delta x^2}$$